

**Abstract of the Disclosure**

A sensor comprises two photodiodes sensitive to different wavelengths. The photodiodes or detectors are stacked in a vertical relationship to each other. A bandpass filter is provided to limit the wavelengths of light reaching the detectors. The photodiodes are formed of various combinations of materials such as AlGaIn or InGaIn, or different compositions of the same material. Charge detectors are coupled to each detector to provide a signal representative of the amount of radiation detected in their corresponding bandwidths. A biological sample is provided proximate the filter. A laser is used to illuminate the biological sample to create biofluorescence corresponding to intrinsic tryptophan of bacteria.

Express Mail: EK930858145US  
February 22, 2002  
H0002243  
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